

## (J) ABSTRACT OF THE DISCLOSURE

The invention herein comprises amyloid beta-derived diffusible ligands (ADDLs), compositions comprising ADDLs, ADDL-surrogates, ADDL-binding molecules, and methods of using any of the foregoing compounds and compositions. ADDLs comprise amyloid  $\beta$  protein assembled into soluble, globular, non-fibrillar, oligomeric structures capable of activating specific cellular processes. The invention also comprises methods of generating ADDL-specific antibodies and methods of using ADDL-specific antibodies for assaying the formation, presence, receptor protein binding and cellular activity of ADDLs, as well as using such antibodies to detect compounds that block the formation or activity of ADDLs, and methods of identifying such compounds. The invention further provides methods of using ADDL-specific antibodies in modulating ADDL formation and/or activity, *inter alia* in the treatment of learning and/or memory disorders.

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